

ABSTRACT OF THE DISCLOSURE

Hydrothermally synthesized catalysts comprising a mixed metal oxide are utilized to produce unsaturated carboxylic acids by the vapor phase oxidation of an alkane, or a mixture of an alkane and an alkene, in the presence thereof; or to produce unsaturated nitriles by the vapor phase oxidation of an alkane, or a mixture of an alkane and an alkene, and ammonia in the presence thereof.